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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,047	12/08/2005	Kyoichi Watanabe	040302-0533	8180

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EXAMINER	
ECHELMEYER, ALIX ELIZABETH	
ART UNIT	**PAPER NUMBER**
1795	
MAIL DATE	**DELIVERY MODE**
05/28/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,047	WATANABE ET AL.	
	Examiner	Art Unit	
	Alix Elizabeth Echelmeyer	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *16-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,30 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed March 24, 2010. Claims 30 and 31 are new. Claims 16-29 were previously withdrawn. Claims 1-15, 30, and 31 are rejected for the reasons given below.

Priority

2. This application claims priority to JP 2003-174135, filed June 18 2003, a certified English translation of which has been received.

Claim Interpretation

3. Claims 5 and 6 include product by process limitations drawn to the method of forming the electrode. The product-by-process limitations are not given patentable weight since the courts have held that patentability is based on a product itself, even if the prior art product is made by a different process (see In re Thorpe, 227 USPQ 964, (CAFC 1985), In re Brown, 173 USPQ 685 (CCPA 1972), and In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983)). MPEP 2113.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hironaka et al. (US 2001/0031391) in view of Urso et al. (US 2004/0115522)

Hironaka et al. teach an electrode for a battery containing an active material, lithium manganese oxide for the cathode and carbon for the anode. The electrode, disposed on the current collector, is taught to be 211 μm for the cathode and 198 μm for the anode ([0097], [0102]).

With regard to claims 2 and 3, Hironaka et al. teach electrode tabs and that the tabs are in a region where the electrode layer is not on the collector ([0051], [0119]).

As for claim 11, the battery of Hironaka et al. is a lithium secondary battery (abstract).

With regard to claims 12 and 13, it is clear from Figure 2 that multiple batteries are assembled.

As for claims 14 and 15, the skilled artisan would easily recognize the utility of the battery of Hironaka et al. in a vehicle. It would have been obvious to one having ordinary skill in the art to provide a battery to a vehicle.

Hironaka et al. teach that the electrode material thickness should be substantially uniform ([0078], [0082] fail to teach the maximum thickness of the collector and

electrode layer is not more than 105% of a minimum thickness of the collector and electrode layer.

Urso et al. teach a battery electrode that has active material in a uniform thickness on the current collector ([0002]). The uniform thickness is desired since it leads to improved electrical performance.

One having ordinary skill in the art at the time the invention was made could have applied the teachings of Urso et al. to a uniform thickness to the electrode of Hironaka et al. and the results would have been predictable. MPEP 2141 III.

As for the specifics of claims 1, 2, 4, and 9, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thickness of the electrode of Hironaka et al. as uniform as possible, since that would lead to improved electrical performance such as taught by Urso et al. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. MPEP 2144.05 IIB.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hironaka et al. in view of Urso et al. as applied to claim 9 above and in further view of Wensley et al. (US 2004/0253520).

The teachings of Hironaka et al. and Urso et al. as discussed above are incorporated herein.

Hironaka et al. in view of Urso et al. fail to teach a packing material including a polymer metal composite film.

Wensley et al. teach a metal plastic laminate case for a lithium battery, further teaching that such a case can provide improvements in weight and thickness over other case materials ([0009]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention as made to provide a metal plastic laminate case such as the one of Wensley et al. for the battery of Hironaka et al. in view of Urso et al.

7. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert et al. (US 2003/0165744) in view of Delnick (US 5,865,860)

Schubert et al. teach an electrode comprising a collector (7) with printed electrode (5) ([0062]).

Schubert et al. fail to teach that the electrode layer comprises a plurality of connected dots.

Delnick teaches a process for printing an electrolyte using dots of electrolyte material (Figure 6). The process of Delnick accurately meters and distributes the material (abstract).

The skilled artisan could have applied the known technique of Delnick to print the electrode of Schubert et al. and the results would have been predictable. MPEP 2141 III.

8. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert et al. in view of Delnick and Urso et al.

The teachings of Schubert et al., Delnick, and Urso et al. as discussed above are incorporated herein.

Schubert et al. teach an electrode comprising a collector (7) with printed electrode (5) ([0062]).

Schubert et al. fail to teach that the electrode layer comprises a plurality of connected dots.

Delnick teaches a process for printing an electrolyte using dots of electrolyte material (Figure 6). The process of Delnick accurately meters and distributes the material (abstract).

The skilled artisan could have applied the known technique of Delnick to print the electrode of Schubert et al. and the results would have been predictable. MPEP 2141 III.

Schubert et al. in view of Delnick fail to teach that the maximum thickness of the collector and electrode layer is not more than 105% of a minimum thickness of the collector and electrode layer.

Urso et al. teach a battery electrode that has active material in a uniform thickness on the current collector ([0002]). The uniform thickness is desired since it leads to improved electrical performance.

One having ordinary skill in the art at the time the invention was made could have applied the teachings of Urso et al. to a uniform thickness to the electrode of Schubert et al. in view of Delnick and the results would have been predictable. MPEP 2141 III.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thickness of the electrode of Schubert et al. in view of Delnick as uniform as possible, since that would lead to improved electrical performance such as taught by Urso et al. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. MPEP 2144.05 IIB.

Response to Arguments

9. Applicant's arguments, see Remarks, filed March 24 2010, with respect to the rejections of claims 1-15 under Noh et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made, see above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1795

aee